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**UTILIZING INDUSTRY TO EDUCATE DOD SYSTEM  
PROGRAM MANAGERS**

**DEFENSE SYSTEMS MANAGEMENT SCHOOL,  
FORT BELVOIR, VIRGINIA**

**MAY 1976**

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# DEFENSE SYSTEMS MANAGEMENT SCHOOL



## PROGRAM MANAGEMENT COURSE INDIVIDUAL STUDY PROGRAM

UTILIZING INDUSTRY TO EDUCATE  
DOD SYSTEM PROGRAM MANAGERS

STUDY PROJECT REPORT  
PMC 76-1

Colin J. Nisbet  
LTC USAF

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DEFENSE SYSTEMS MANAGEMENT SCHOOL

STUDY TITLE: UTILIZING INDUSTRY TO EDUCATE DOD SYSTEM PROGRAM MANAGERS

STUDY PROJECT GOALS:

To evaluate the military services' Education With Industry (EWI) Programs as potential additional means of educating systems program managers.

To prepare a plan by which officers from various career fields can obtain a unique educational experience in program management through "hands-on" work assignments in civilian industry.

STUDY REPORT ABSTRACT:

This study discusses the need for education and training in the area of system program management. Current courses in both professional non-degree and graduate degree programs are reviewed, in addition to Army, Navy and Air Force education programs presently operated with industry. A proposed EWI course in system program management is proposed and outlined, utilizing various sources of information including the author's experience in program offices and recent manager of the USAF EWI Program.

KEY WORDS

PERSONNEL

TRAINING

SYSTEM MANAGERS

EDUCATION

PROGRAMS OF INSTRUCTION

OJT

LOGISTICS TRAINING  
OFFICER TRAINING

KEY WORDS: PROGRAM MANAGEMENT

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UTILIZING INDUSTRY TO EDUCATE  
DOD SYSTEM PROGRAM MANAGERS

Study Project Report  
Individual Study Program

Defense Systems Management School  
Program Management Course  
Class 76-1

by

Colin J. Nisbet  
LTC USAF

May 1976

Study Project Advisor  
LTC Carroll C. Rands, USAF

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This study project report represents the views, conclusions and recommendations of the author and does not necessarily reflect the official opinion of the Defense Systems Management School or the Department of Defense.

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## EXECUTIVE SUMMARY

The necessity for effective system program management is recognized as one of the most important aspects of modern Department of Defense management. The education and training of military officers in this area now includes DOD non-degree professional courses and two graduate degree curriculums.

This study proposes that the military services take advantage of an additional method of educating officers by assigning them to work in industry. Each Service presently has some form of this type of education in being. Although twenty to thirty different career areas utilize these programs, the incorporation of a system program management course has not been developed in an Education With Industry (EWI) Program.

As part of the "Program Management Team", industry plays an all important role in the success of a military program. EWI offers a unique opportunity for the military officer to not only expand his/her knowledge of program management, but to understand the contractor's problems, motivations, personnel, philosophies, technology, etc. This type of education program has proven successful for over twenty-five years. The study recommends that education in program management be expanded to include actual "hands-on" working experience with civilian industry through the USAF EWI Program. Several companies have already informally agreed to support this education proposal.

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## SECTION I

### INTRODUCTION

#### General

The need to improve the quality of military program management has been recognized for a number of years. As a means to meet this need, specialized professional education and formal graduate degree programs have been developed which help prepare the program manager and his staff for their responsibilities. However, successful weapon system management requires more than just the program office because the coordinated contributions of numerous other government organizations and activities at all levels of DOD are also essential. In addition, the system must have capable, proven and success-oriented contractor support, for without this quality of effort from industry, the military program office is destined for failure.

#### Purpose

The purpose of this study is to set forth a means of educating and training military officers in system program management through a working assignment in industry. This study discusses the continuing need for education in program management and how industry can be utilized to provide this learning experience to military officers.

#### Methodology

This study was based upon personal interviews, telephone interviews, reference materials from the government and industry sources, and from the author's personal experience working in program offices and as the recent past manager of the USAF Education With Industry (EWI) Program.

Organization of Report

Section I is the introduction to the study. Section II reviews the background and need for DOD system program management. Section III discusses the current methods of educating military officers with industry. Section IV sets forth a proposed EWI Program in program management in which all Services can participate. Section V provides conclusions and recommendations on the study.

## SECTION II

### THE NECESSITY OF SYSTEM PROGRAM MANAGEMENT EDUCATION

#### Background

We have all heard the term "the military-industrial complex" used in one context or another. Unfortunately, the term is frequently expressed in an unfavorable manner; implying a contrived deceiving relationship in which both the military and civilian industry profit at the taxpayer's expense. This opinion has been debated in much detail and will no doubt continue to be in the future. The purpose here is not to further review this discussion, but to approach the subject as one which is inevitable and necessary to the survival of our nation. The relationship must be maintained but with the utmost integrity by all parties involved.

The term "complex" very aptly describes the nature of weapon system program management for it is an extremely complex and demanding task. This complexity, the extensive resources involved, the life cycle of many years, and the urgency of achieving and maintaining maximum operational capability are all factors which make it mandatory to exercise the most effective system management possible. The acquisition and support of a weapon system throughout its life cycle, which is frequently up to twenty years, must be accomplished as an integrated time-phased program to the maximum extent practical. What is system management? It has been formally defined as:

. . . . . "a concept for the technical and business management of particular systems/projects based on the use of a designated, centralized management authority who is responsible for planning, directing and controlling the definition, development and production of a system/project; and for assuring that planning is accomplished

by the organizations responsible for the complementary functions of logistic and maintenance support, personnel training, operational testing, activation or deployment. The centralized management authority is supported by functional organizations which are responsible to the centralized management authority for the execution of specifically assigned system/project tasks." (13/1) (See footnote at bottom of page.)

Beginning in the late 1960's and early 1970's, it became clear that the management of military weapon systems had reached a critical phase with several major systems in serious cost overrun and schedule problems. With the involvement of billions of dollars, public and congressional criticism became extremely vocal. In many instances, the complaints were most warranted for the military had not done a good job of management.

"Frankly, gentlemen, in defense procurement, we have a real mess on our hands, and the question you and I have to face up to is what are we going to do to clean it up." (1) Mr. David Packard, then the Deputy Secretary of Defense, was speaking to industry and military leaders who had deep vested interest in the problem. In an effort to correct and improve the situation, Department of Defense Directive 5000.1 was issued in 1971 establishing policy for major defense system acquisition in the military departments and defense agencies. This was the first of a series of DOD Directives issued to provide improved management of weapon systems. As this policy developed, it became obvious that education was needed.

This notation will be used throughout the report for sources of quotations and major references. The first number is the source listed in the bibliography; the second number is the page in the reference.

### Education and Training of Program Managers

One of the publications, DOD Directive 5000.23, dated 26 November 1974, sets forth the necessity for education of program managers. This directive established policy for the selection, training, and career development of DOD personnel who are required for the management of major defense systems acquisition. The directive stated that professional education and training programs should provide for progressive growth at the entry, intermediate and senior levels. As a means to meet this requirement, the Defense Systems Management School (DSMS) at Fort Belvoir, Virginia was established. Although DSMS offers a number of courses to the various levels of management, the primary one is the Program Management Course (PMC) which is twenty weeks in length and is offered twice a year. The PMC is highly regarded and is continuing to expand its enrollment to meet the need for well-trained military and civilian program managers.

There are a number of other DOD courses of shorter duration which teach some of the areas in the overall broad aspects of program management, but presently the PMC at DSMS is the best and most extensive course offered as professional education. Table 1 includes a list of other courses in specialties involved in program management organizations which are offered to DOD personnel.

### Formal Degree Programs In DOD Program Management

Formal education programs offering graduate degrees in systems program management in the DOD are limited to two. One is offered by the Navy Post-graduate School (NPS) at Monterey, California, and the other is offered by the Air Force Institute of Technology (AFIT) at Wright-Patterson AFB, Ohio.

TABLE I  
DOD Program Management - Oriented Courses

<u>Management</u>		
<u>Title</u>	<u>Location</u>	<u>Length</u>
Program Management	Defense Systems Management School (DSMS) Ft Belvoir, VA	20 weeks
Systems Program Management	AF Institute of Technology (AFIT), Wright-Patterson AFB, Ohio	6.6 weeks
System Program Director Procurement Refresher	AFIT	5 days
<u>Program Control</u>		
Cost/Schedule Control Systems Criteria	DSMS	5 days
Basic Quantitative Methods in Cost Analysis	AFIT	18 days
Advanced Quantitative Methods in Cost Analysis	AFIT	18 days
Advanced Cost & Economic Analysis	AFIT	20 days
Evaluation of Performance Measurement Systems	AFIT	15 days
Production Management	AFIT	34 days
Production Management II	AFIT	13 days
Cost Analysis/Systems Program Financial Mgt.	AFIT (EWI)	10 months

TABLE I (Cont'd)

<u>ENGINEERING</u>		
Reliability/Maintainability Engineering	AFIT(EWI)	10 months
Value Engineering	AFIT	5 days
<u>PROCUREMENT</u>		
Advanced Contract Administration	AFIT	10 days
Contract Administration	AFIT	15 days
Contract Law	AFIT	9 days
Defense Cost/Price Analysis	AFIT	10 days
Defense Contract Pricing Techniques	AFIT	20 days
Defense Advance Procurement Pricing	AFIT	17 days
Cost Reimbursement & Incentive Contracting	AFIT	8 days
Industrial Procurement and Production	AFIT(EWI)	10 months
<u>LOGISTICS</u>		
Logistics Management	AFIT(EWI)	10 months

The Navy course, System Acquisition Management, is 18 months long and approximately 40 military officers are graduated annually. The Air Force course, Systems Management, is 15 months long and also annually graduates about 40 officers. Both schools accept officers from other Services and grant Master of Science (M.S.) Degrees to their graduates. Each school's curriculum is quite similar, emphasizing such subjects as financial management, economics, mathematics, operation research, management policy, production, logistics and procurement. In addition, the schools include seminar programs and an intensive student research effort on problems with military management applications.

#### A Third Approach to Educating Program Managers

In the paragraphs above, the current use of professional education courses and DOD graduate degree programs have been briefly discussed. The purpose of this paper is to propose a third method of providing system program management education to DOD personnel. This approach involves the assignment of military personnel to industry for a "hands on" working experience and education with the private sector of our economy. This concept of education has been successfully utilized by the Army, Navy and Air Force for over 25 years. Although many different career fields and specialties have taken advantage of this form of education, the system program management area has not. The following sections will discuss the importance of the contractor in program management, current military education programs in civilian firms and a recommended ten-month course in program management with industry.

## SECTION III

## THE CONTRACTOR AND MILITARY EDUCATION PROGRAMS WITH INDUSTRY

One of the most important concepts of systems program management is that of the "team." The team includes not only those assigned to the program office, but many others to varying degrees throughout the government and industry. As defined by one expert (5) in the field of program management, the team includes the following:

Personnel from functional organizations (full-time or part-time)	System Prime Contractor
Associate Contractors	Subcontractors
Operational Users	Plant Representative Office
Major Development and Acquisition Command (AFSC, etc)	Test and Evaluation Agencies
Defense System Acquisition Review Council (DSARC)	Service Command Headquarters
	Training Command

As long as this large and diverse group works together to minimize or eliminate communication boundaries and barriers, the program management team should be successful. The importance of the team concept can hardly be over-emphasized for it is this philosophy which is a cornerstone of successful program management.

The Contractor as Part of the Program Management Team

From the list above, it is readily apparent that one of the leading members of the program team is civilian industry. Whether it participates as the prime, associate, or subcontractor, industry is extremely critical to a successful program management effort.

"The term "industry interface" is not merely an elegant expression for contracting, although it includes contracting. It is something more. It

suggests some feeling for the relationships between government and defense industry - something of the setting in which the system acquisition process takes place. It also implies an understanding of some of the things which influence and motivate industry. The interface with industry has peculiar relevance for military program managers. By far the larger part of total program acquisition funds will be spent through industry sources. Program planning and control activities will be largely dependent on industry inputs. Some program managers have had very little direct contact with industry. Given the reliance on industry's efforts, much of a program manager's time and attention will have to be devoted to problems in an environment which may be new to him.

As one program manager notes:

You are deep in contractor problems from the beginning. If you are going to do your job right, you have to know your major contractors - - their history, organization, people, and the way they do business. To understand a contractor, you have to know something about the industry he is a part of - its growth or decline, and its problems. And to understand an industry, you have to learn everything it can about its customer - the government. A program manager should do no less in learning about his major suppliers.

The kind of information needed embraces such things as areas of market interest, the number of suppliers and trends toward concentration, interest in seeking primarily commercial or government work, backlog of commercial and government work, relationships with parent organizations, recent management changes and reasons for the changes, and recent organizational changes." (10/17)

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Nowhere can military personnel better learn and understand this type of information than as a working part of industry. As previously mentioned, all three Services currently have some form of this type of course.

ARMY. This program is entitled Training With Industry (TWI), which started shortly after World War II.

The purpose of TWI is to provide career Army officers with knowledge, experience, and perspective in management and operational techniques in order to perform positions of significant responsibility in commands and activities that normally interface with civilian industry. It provides the officer student with an opportunity to work with "real world" problems rather than theoretical and model problems inherent in the academic environment.

Historically, Army TWI has been primarily in the fields of transportation and communication (American Telephone and Telegraph Company). TWI programs are currently in the areas of procurement, logistics management, research and development (6 each) and transportation (7). Companies of assignment presently include United Airlines in Chicago and RCA at Moorestown, New Jersey. Programs are 12 months long and the officer is authorized a PCS move to the company location. Nothing is paid to the companies for their participation, but they receive the work contribution of the officer and the satisfaction of providing a service to the DOD. Since there are no tuition costs and TWI is of shorter duration than a graduate degree program, unique training and experience are acquired at a significantly reduced cost to the Army.

NAVY. The Navy Professional Development Program (PDP) is not directed solely towards an industry assignment, but to other "independent" assignments.

as well. In the Navy, officers are requested to apply in writing for a PDP assignment. In applying, officers normally specify the type of training to be accomplished as well as what arrangements have been made with the activity which will provide the training. In the case of industry assignments, the officer normally goes "job hunting" in seeking the most beneficial training. Up to thirty officers between the grades of Lieutenant (O-3) and Captain (O-6) are selected each year by a selection board under the auspices of the Chief of Naval Education and Training. Selections are made on the basis of the needs of the Navy, the suitability of the assignment, and on the recommendation of the applicant's supervisor. Since its inception, approximately 500 naval officers have participated in the PDP; however, only a small portion have elected to train with industry. Assignments other than industry have included: other government agencies and departments, foundations and educational institutions. Recent trends indicate a de-emphasis on using this Navy program in favor of degree programs.

The Navy Professional Development Program has been based solely on individual initiative. For those participants who train with industry, there are no contractual training agreements. It encourages the individual participant and the industry to tailor a program which best meets the needs of the individual, the company, and the Navy.

AIR FORCE. This program is entitled "Education With Industry" (EWI) and is the oldest and largest of this type military education program. Since 1947, over 2500 Air Force officers have completed this program with almost 100 different companies. About 10 years ago, the program's name was changed from TWI to EWI to stress the Air Force's emphasis on management

rather than the more limited technical and "how to" aspects of the program. The Air Force EWI Program is designed to develop qualities and abilities in selected officers necessary for effective management and professional or technical leadership; and to provide an understanding of organizational structures, management methods, and the technology of modern industry. EWI's purpose is to educate officers in industrial concepts to assure the Air Force of well qualified managers to handle its business with industry. It is an educational program presently sponsored jointly by the Air Force Institute of Technology (AFIT) and approximately 60 leading industrial firms and other organizations located throughout the country. Currently, there are 22 career fields represented with a total enrollment of 122 officer students.

Despite the diversity of companies participating, there is a great deal of similarity in programs. Basically, all aim at helping the student understand management philosophy and procedures, and state-of-the-art technology. The EWI Program is intended as an individualized educational program; and as such, detailed course content to meet the objective of the program is not specified by AFIT. Instead, each company is encouraged to establish a program unique to itself and tailored to meet the needs of the officer student. In some instances, the Air Force may provide desired learning objectives (DLO's) to further structure the program in certain career areas. Education rather than training is emphasized, since the ultimate objective is to better prepare the officer for a career rather than to provide specific training for the next assignment.

Each company selects a coordinator who develops and supervises an educational plan which puts the EWI student to work with people who know

and run the business. This coordinator becomes a vital link between AFIT and industry as he/she assists each officer to achieve the EWI objective by guiding him through a broad spectrum of dynamic experiences which provide a framework for progressive learning.

Since the company is asked to provide this education, it is necessary for AFIT, in turn, to insure the selection of highly qualified officers. This is accomplished through an extensive screening process. An officer selected must be from the top level of performance effectiveness and possess a minimum of a baccalaureate degree. His record is carefully evaluated by special boards established by USAF Headquarters and he must be a volunteer for the program.

In order for AFIT to insure that the EWI objective is met, each company is requested to provide a complete schedule of programmed activities which indicate the general scope of each activity, the planned sequencing and suggested guidance responsibilities. In addition, each student prepares a series of three phase reports on the progress and activities within his program during the ten months. Each report is reviewed and evaluated by AFIT EWI Program Manager for content, objectives and guidance. Once reviewed, copies are also furnished with comments to the USAF Military Personnel Center and to the various participating functional career managers at HQ, USAF.

This section has reviewed the various industry education programs which the respective services operate to meet requirements best fulfilled by direct participation with civilian firms. The preceding section discussed the importance of DOD system program management and the proper preparation of personnel to perform those tasks.

The next section of this study proposes a unique educational experience  
for future program managers.

## SECTION IV

### PROPOSAL FOR AN EWI PROGRAM IN SYSTEM PROGRAM MANAGEMENT

It is important to recognize that there are two truly key factors in a successful EWI Program. First, the program must have flexibility in all aspects to best match the individual officer's background, experience, future assignments, etc. to the company's available resources. The Military Services must not make the individual programs too structured as this can restrict and minimize opportunities for fully developing the program. In other words, the parties involved must work together to tailor the program, thereby optimizing the officer's education.

The second key factor is the individual officer him/herself. No matter how well the government and the company plan and operate the program, the degree of success rests primarily with the individual officer. For this reason, it is paramount that the Military Services select only officers who are highly motivated, have proven top performance, and are well suited to program management responsibilities.

#### Proposed Program

It is proposed that an EWI Program in system program management would provide an excellent additional means of preparing future military program managers. The formal and professional methods of education are essential, but would be well complemented by "hands-on/real world" educational experience provided by an assignment with industry. As an Air Force Colonel now assigned to a key position in Air Force Systems Command (AFSC) Headquarters says, "EWI has provided me with group dynamics experience with top management, decision training without the burden of responsibility, and an opportunity to exchange philosophies with my counterparts in the aerospace

industry." (19/11) Or as a general officer stated, "Since I have spent the bulk of my career in procurement dealing with these companies, knowing how they are motivated, the mechanics of how a bid is prepared, their strategy to win contracts, etc has been useful to me in negotiating sessions. In short, EWI helps not only to understand the inner workings of a large industrial concern, but it also helps give you a balanced view. One of the most beneficial results of the program for me was in the financial area. Being able to observe the contractor construct a bid, seeing the various pricing techniques used, observing management adding in contingency funds, and pursuing their strategy for winning an award were invaluable - particularly when I was sitting on the other side of the negotiating table." (19/11)

A single service should manage an EWI System Management Program for all of the Services. This is currently done for many educational courses at the Naval Post Graduate School and AFIT in both degree and non-degree programs. Multi-service course utilization of this type is being encouraged by the DOD Council on Excellence in Education to reduce cost and improve quality.

The proposed EWI Program should be directed toward officers with approximately six to twelve years of commissioned service, preferably with at least one previous assignment in a program office type organization. Although this course could be adopted to officers of many varied backgrounds (one of its advantages), it would be ideally suited to one who has technical experience and/or education and has demonstrated a proven desire to broaden his/her career by entering the program management field. For example, an officer with an undergraduate degree in engineering might develop an interest

for broader management perspectives and obtained an MBA on his/her own hoping to move out of the more technical aspects of program management. Through EWI, the officers have an opportunity to learn program management, while at the same time developing an understanding of industry and its perspective of weapon system business. This has long been recognized as one of the unique advantages of the military education program with industry.

(See Appendix 1 - EWI Program at Boeing Aerospace Company, Seattle)

Tri-Service Participation in the USAF EWI Program

With the largest and most diversified of the military service programs, the Air Force should manage such a program. HQ, AFIT, has informally expressed interest in supporting the management of this program as the additional students would be incorporated as part of the present management philosophy. Close coordination would be maintained with the sponsoring Service and command to make certain that the company and location (to minimize PCS) best match the officer and his future assignments. From five to ten top quality officers from each of the three Services would be incorporated into the present EWI Program which is usually ten months in duration - starts in September and runs through the following June.

Industry's support has long been strong and enthusiastic for the EWI Program. Typical of this support was a recent statement by Mr. M. T. Stamper, President of the Boeing Company, to company employees and the current Air Force officers assigned to Boeing: "Education with industry (EWI) provides bright, young, Air Force officers in their middle years of their careers, the opportunity to experience and understand industry. It is a program of development through involvement within a work assignment. Non-participation observation and academics are kept to a minimum. It is one-on-one sharing of problems and opinions, facts and ideas, solutions and

compromises. The Air Force officer and the Boeing manager who work together mutually benefit. It is this kind of association that stimulates communication and energizes action at all levels of government and industry. In these times of growing shortages and shrinking money, there can be no separate worlds and solutions must be sought in concert. The thrust of EWI has never been more purposeful than in the Bicentennial year. I pledge the wholehearted support of Boeing to this Air Force program and welcome the officers in the EWI Class of '76." (8/3)

This active support by top level industry management is recognized as one of the primary reasons for success in the EWI Program. The management recognizes the benefit of such a program to both government and industry. Recently, Mr. George M. Skula, President and Chairman of the Board of Grumman Aerospace Corporation, made the following statement to company and Air Force personnel, "The program offers an opportunity for promoting common understanding of mutual concerns, improved communications with our customers, cooperation and a sharing of experience and knowledge which is extremely valuable to Grumman and to the Air Force. The contribution and value of the EWI Program within both the military and industry has been demonstrated repeatedly over this twenty-eight years of experience ..... I urge every member of the GAC management team to cooperate fully in making the officers EWI experience at Grumman productive and successful." (16/3)

(Appendix 2 is a schedule of the present EWI Program conducted at Grumman.)

#### A Sample EWI Program in System Program Management

As discussed in previous sections, one of the real keys to a successful program is flexibility and tailoring the course/schedule to the individual officer and the company to which he is assigned. With this in mind, set

forth below is a proposed EWI Program in system program management. As envisioned, this program would be structured in a manner which is similar to many on-going company programs - that is, it would consist of three broad phases:

- Introduction and orientation to the company
- Detailed analysis and study of functional and project organizations
- Work assignments

Phase I - Introduction and Orientation (5 weeks)

Discussions are held with the following organizations:

- Corporate Organization, Resources and Management Overview by General Manager and Staff
- Marketing and Customer Requirements
- Financial Management
- Legal
- Engineering
- Manufacturing
- Material
- Procurement and Subcontracting
- Personnel, Personal Services and Security
- Military Plant Representative Office (NAVPRO, AFPRO, DCASO,etc)
- Facilities and Support Management
- Advanced Planning and Programs
- Flight Test and Acceptance
- Individual Project Offices

Phase II - Analysis of Functional and Project Organizations (5 weeks)

In this phase, the officer should selectively return to organizations which he believes can best assist him in meeting his learning goals and objectives. This is a function of the officer's desires, his company coordinator's guidance, and the availability of company management and resources. These periods may be for one or several days and the number of organizations visited may be only a few or many. At the completion of this phase, the officer should have an excellent knowledge of the company and be ready to begin the first work assignment.

Phase III - Work Assignments (approximately 33 weeks or for the balance of the program)

This phase should consist of about two to four work assignments. The length and type of work will be negotiated between the company and the student. One student may find that his objectives are best met by remaining in one project office for the entire time, but move between functional groups in that one office. Another student might believe that his course is maximized by a mix of work assignments between a project office and a functional group (contracts or engineering, etc). Other students might choose to gain work experience with several project offices operating in different phases of the acquisition cycle (conceptual, production, etc). The officer and his company are assisted in tailoring the program to match the officer's next assignment when the following command of assignment contacts the student and informs him of his responsibilities in his next job. This form of communication is encouraged between all concerned with the EWI Program as it significantly increases the return on investment to

the officer and his command. (Appendices 3 and 4 are other examples of EWI Programs (Lockheed Missile and Space Company, Inc., Sunnyvale, California and General Dynamics, Fort Worth Division).

The decision of what type of program schedule and form of work assignments to choose is a classic dilemma for many EWI officers. Lt Colonel Larry Downs, recently assigned to 3-M Company in St. Paul, expressed it this way:

"Initially, Downs saw his 3-M experience as a four-phase operation - cursory orientation, formal training, tasking assignments (short-term projects) and work projects (in-depth activities focusing on long-range skill building). But it has been his experience that these phases can overlap or run concurrently and he now sees this basic framework from a more evolutionary point of view: 'By the time I complete the program in June, I may see the project as a 10-phase activity. It's really too soon to tell.'

"One danger Downs finds himself contending with is the tendency to be pulled in two different directions, both unsatisfactory.

" 'With so many options open to you,' he says, ' there is a danger that you will learn only a little bit about a lot of things. You could end up with something like a Reader's Digest knowledge of civilian business philosophy and practice . . . useful, but essentially without depth in all areas. At the other extreme, you could restrict yourself to gaining an in-depth knowledge of only one or two areas, with the result that you acquire only a very narrow range of skills. For a man in my career field, I believe this is unacceptable.'

"His solution is to attempt to strike a balance between these two extremes."

### Some Student Comments

It is also interesting to note some of the Air Force Officer's usual responses and impressions after their tour with industry. Some of these are:

-----They and their families look forward to returning to the Air Force.

-----"In comparison, the Air Force is a 'good company.' "

-----"Industry usually doesn't manage any differently than the military, and many times not as well."

-----"EWI was a much better education than my MBA Degree, and the payoff to the Service is much more immediate and practical. I can structure the course to my needs, not take many required subjects which are not relevant or which are repetitious."

The great majority of the feedback from EWI graduates is highly favorable toward their individual programs. This is not only true of recent graduates, but especially so for officers who are now from five to ten years out of the program and can reflect back on its benefit after several assignments. There appears to be a general opinion that the experience of an EWI Program becomes more valuable the further an officer's career progresses after course completion.

### Companies Interested in Operating an EWI Program in System Program Management

As a way of determining industry's interest in such a proposal, a number of companies were contacted. (21) Among the firms which informally indicated they would support such a program were:

Avco Lycoming Engine Group  
Stratford, Connecticut

Boeing Aerospace Company  
Seattle, Washington

General Dynamics Corporation  
Fort Worth Division, Texas

General Electric Company  
Re-Entry and Environmental Systems Division  
Philadelphia, PA

Grumman Aerospace Company  
Bethpage, L.I., N.Y.

Hughes Aircraft Company  
Culver City, California

IBM Corporation  
Owego, N.Y.

Lockheed-California Company  
Burbank, California

Lockheed Missiles and Space Company, Inc.  
Sunnyvale, California

McDonnell Douglas Corporation  
St. Louis, Missouri

Northrop Corporation  
Hawthorne, California

RCA Government and Commercial Systems  
Moorestown, New Jersey

Rockwell International (Electronics Operation)  
Anaheim, California

United Technologies, Inc.  
Chemical System Division  
Sunnyvale, California

Westinghouse Electric Company  
Baltimore, Maryland

Each of these companies believes that either one or two program management students could be incorporated into their current EWI Programs. There is little doubt that these companies and others like them can provide an outstanding EWI educational experience for military officers in program

management; however, it is important to again emphasize that the key to the overall success of any EWI program is the individual officer himself. As a proven education program, EWI provides the government and industry with an officer who is uniquely qualified to enhance the program management "team."

## SECTION V

### CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

With over twenty-five years of successful experience, military education/training programs with industry appear to be an ideal method of expanding system program management education. The need for effective education of program management officers has never been more recognized than now. With the demands of maintaining national defense for less money, the urgency for improved acquisition management continues to increase.

The Army, Navy and Air Force all presently have various types of EWI programs, but a course dedicated to system program management has not been developed. Currently, there are a number of academic courses in program management offered by the DOD. Most of these are non-degree professional education programs and two are graduate degree courses. In the latter category, one degree is offered by the Naval Post Graduate School at Monterey and the other by the Air Force at AFIT, Wright-Patterson AFB, Ohio.

An EWI course in system program management would provide select officers with a unique educational experience not presently available. These programs can be tailored to the officer, his following assignments and the company's resources. Numerous companies have informally agreed to support such a program and would be interested in working with one or more of these officers annually.

It is essential to have flexibility in each officer's program to best match the company to the officer's individual needs and objectives. The single most important element in a successful program is the officer

him/herself for without a mature, self-starting motivated individual, the full benefit of the program will not be realized. The "right" officer with the "right" company would provide the military with an excellent source of system program management education.

Recommendations

An EWI program in system program management be established for military officers.

Approximately five to ten highly qualified officers from each Service be selected annually to attend.

A single Service, the Air Force, manage this program within the present AFIT/EWI Program.

The program be ten-months in length (September through June).

"Hands-on" or working assignments be stressed,rather than extended orientation periods of observation only.

**[EWI]**

## Authority

An Education With Industry Service Contract has been approved by the Air Force and by The Boeing Aerospace Company (F33600-75-C-0611) starting 2 September 1975 and ending 25 June 1976. This 10-month program is no-cost except for officer travel in direct support of the contractor's normal business activity.

### POLICY

The Boeing Company sponsors and supports this annual program, as requested by the Air Force, to assist officers in developing management qualities and leadership abilities while providing not only perspective of, but a working knowledge of industrial methods used in research, development and manufacture of aerospace hardware.

### OBJECTIVES

The total program provides an extended study of managerial skills, approaches to problem-solving and of methods used in research, development and manufacture of aerospace hardware in an industrial environment with emphasis in the area of program options. The program also enhances working relationships and mutual understanding between Air Force and industry through study of organizational functions and participation in program work assignments.

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1977 contract to DDC does not  
permit fully legible reproduction

## **SECURITY CLEARANCE**

Air Force Institute of Technology provides The Boeing Company Security Visitor Control and the AFPRO with certification of the officer's security status. This clearance level is indicated in the standard way on the Boeing badges worn by the officers.

## **WORK SCHEDULE**

All scheduled training is to be conducted Monday through Friday. The hours will fluctuate according to availability of instructors and managers. After orientation, however, the officers' working hours will correspond to those of the organization to which they are assigned.

## **COMPANY ADDRESS**

Because the officers are frequently on trips or are moved during the course of their work assignment, all officers use the coordinator's company phone number and address. The coordinator will locate the individual officer upon request. The extension number is 773-8616 and the mail stop is 87-84.

# EWI

## Responsibilities

### AIR FORCE

The role of each EWI officer is that of a student in the host company. The Air Force instructs the officers to be objective and open minded toward the policies, decisions or actions of host companies. The definitive responsibilities of the Air Force are:

1. The officers are directly responsible to the Director, Civilian Institution Programs, AFIT, Colonel Robert A. Kelley.
2. The officers' medical care, flying requirements and pay records are handled by McChord Air Force Base. No other military organization has authority with respect to AFIT officers assigned to the EWI program.
3. The AFPR, other than initial briefings and a few courtesy administrative details such as travel arrangements, is not responsible for these officers during their tour at Boeing.
4. Only Air Force associated or required travel is paid for by the Air Force. This represents a new policy on travel. In accordance with AFR 30-30 (C3), attachment 8, Para HB.14, DoD personnel may not accept personal reimbursement from a private source; therefore, payment of EWI travel and per diem shall be accomplished by the Air Force in accordance with current Joint Travel Regulations. See Item number 6 under Boeing Responsibilities.
5. AFIT provides an annual symposium in the fall for mutual understanding of program purposes by all officers in EWI.
6. The officer student prepares and submits to AFIT three phase reports that disclose appropriate current subject matter and individual progress only. The first phase report is forwarded on for inclusion in the officer's personnel record. Representatives of the host company review these reports prior to their release.
7. The opportunity to take appropriate correspondence courses is provided.
8. The officers do not wear uniforms. They are authorized to wear civilian clothes and a standard Boeing Company badge.
9. While on a job assignment, the officer should conduct himself as he would during regular duty assignments.
10. Certificates of course completion are provided by AFIT.



## Responsibilities

### BOEING

All levels of management should understand the objectives and responsibilities of participation in EWI. Visibility, endorsement, interest and involvement by management is necessary to the success of Education With Industry. The definitive host company responsibilities for the program include:

1. Appointment of a company coordinator to work with AFIT and the officers for the entirety of the program.
2. Distribution of information about the EWI program and its participants so that company employees may have an understanding of EWI purposes and the role of officer-students.
3. Provision of a complete orientation to the company that prepares EWI officers for integration into the middle management working level of the company. It should also give them an introduction to top management affording an understanding of organization, interfaces, planning, products, and goals.
4. Assignment of the student-officers to a challenging managerial job with specific responsibilities and opportunities for accomplishment.
5. Periodic evaluations with the job sponsor of the officer-student progress which should provide a forum for constructive feedback.
6. When EWI travel is accomplished in direct support of Boeing's normal business activities, Boeing will reimburse the Air Force for the officer's actual costs of travel and per diem. Travel for the officers, as part of a Boeing business team, particularly to Subcontractors, is encouraged. All questions on travel should be directed to the EWI Coordinator.
7. Offering the officers the opportunity to observe, view decisions at various company levels, to attend seminars, off-hour training and other supplemental educational programs.
8. Although the host company has no administrative responsibility for the welfare, safety, performance, or behavior of the officer, optimum mutual benefit is derived if the officer is treated as a management understudy in whom we have complete confidence.



## Administration

The EWI Coordinator is responsible for conduct of the program which includes: all relations with the Air Force Institute of Technology regarding EWI; planning and attending officers' visits to executives, symposia, seminars and other Aerospace contract programs; counseling with heads of major functions and programs to arrange orientation schedules, job assignments and evaluations for the officers; acting as focal point within the Company, and as liaison with other Aerospace companies.

The Executive Advisor provides management liaison with the President of the Company, provides administrative and technical counsel to the coordinator and meets regularly with the officers.

The Mentors assist the coordinator by giving initial orientation instruction, counseling and assistance in job placement to the officers. They are a resource for facts on functional areas. They provide the forum for discussion, the mid-monthly seminars, that keep the officers apprised of current events within the Corporation.

Job Sponsors are responsible for designing the work assignment, structuring (with the officer-student) the job schedule, inviting the officer to attend policy and decision-making meetings, identifying trips that would relate to the job and are educational such as negotiations or supplier surveys, and for monitoring assignment effectiveness and student progress for the coordinator. The job sponsors are the managers to whom the officers report while on job assignment.



## Orientation

In the first ten days of the program, intensive morning classroom sessions will be conducted by the Mentors on the fundamentals of the central functions within the Company. The subjects covered will be: Contracts, Finance, Planning, Research and Engineering, Materiel, Manufacturing, Quality Assurance, Computing, Industrial Relations, Organizational Structure and the Philosophy of Program Management. These sessions are designed to quickly fill any knowledge gap that may exist; they are to provide a baseline for the ten months ahead; and, it is hoped, that they will increase the value of other orientation briefings as well.

The Introduction to Boeing can best be described as a discourse and dialog conducted by those who have functional or program management responsibilities beginning at Corporate offices and then proceeding to the Company level at Boeing Commercial Airplane Company, Boeing Computer Services Company, Inc., and Boeing Aerospace Company. After Company overviews, the officers then will receive in-depth briefings of progress through the individual Company's management of functions and programs. EWI orientation is organized to display a logic flow through the survey of major management practices and policies, engineering and production, technical skills, and finally, the marketing goals and end products. This fast paced schedule fixes the officers' capability to absorb the essential material in the shortest possible time. Success of the EWI program at Boeing is predicated on effective utilization of the officers' limited time and by keeping our focus on the program objectives. Well-planned presentations are essential to this educational process. Sessions should also allow ample opportunity for discussions. Questions should be answered frankly and completely. The classroom work and the initial visits to Corporate should eliminate the need to cover basic and sometimes repetitive issues such as acronym definitions, organizational and product line reviews. Key to this orientation is the knowledge that these men and women want a better understanding of the interaction of industry and Government, of the methodology, resultant comparisons and the impact upon our Country. They want to be exposed to take their place in the future not with the limitations of restricted perspective but with the vision, knowledge and common sense that the EWI experience can provide.



## Job Assignments

Matching the officer-student with the right assignment is perhaps the most challenging and important task. Accordingly, special care must be taken to match the background, skill, talent, interest and aptitude of the officer-student with the best available position within the Company. Also to be considered are the AFIT program options which denote the current needs within the Air Force. While the job sponsor knows the tenor and direction of his own program, the officer's own personal choice of the program is a strong consideration. Interviews with the officers will be conducted by the prospective job sponsors. As part of the interview, it is important that the potential assignment be defined precisely as to requirements, responsibilities, and opportunities. Yet, this job definition should not be so crystallized that it cannot accommodate changes or adapt to the dynamics of current events within the Company or program. So, when the interviews are completed and the job selection is made, the job sponsor should sit down with the officer and structure a schedule that satisfies both the student's needs and the program requirements. Educationally, such a schedule should be structured to follow a specific hardware item through the system or should relate to a series of program milestones; thus, revealing the functional responsibilities and relationships.

At this point, the job sponsor should take the time to introduce the officer at the various staff levels within his organization and to the people with whom the officer will be working, as well. It is important that each employee be aware of the EWI objectives. The student-officers are to be treated like Boeing employees for their ten-month period. The job sponsors and their peers should make them feel welcome and useful. The officers should work as part of the team. It becomes "their" Company while they are here and they tend to feel the pride and other emotions for the Company that any other employee experiences.

The officer's working level is that of middle management. They are not to act as observers only! The job sponsors should make sure that they are given responsible tasks and meaningful work. It is also important to make sure that they have the necessary management tools to perform their jobs, the chance to travel for purpose of observing negotiations, customer reviews or supplier surveys, the opportunity to participate in important meetings, and that they are informed of special projects or areas concerning the project.

Everyone involved in EWI should take a personal interest in the officers' development. The officers, in turn, should bring enthusiasm, expertise and the willingness to engage the issues and get to work. In this process, both Company and officers will benefit because a pattern for achievement and success has been established.

ANY QUESTIONS? . . . Please direct them to the EWI coordinator.

Suzanne B. Wiley  
Boeing Aerospace Company  
P.O. Box 3999  
Seattle, WA 98124  
Orgn. 2-1844 Mail Stop 87-84  
Telephone: (206) 773-8616

## PROGRAM SCHEDULE

The total EWI calendar spans a period from early September to late June. This ten-month time frame is divided into three phases of EWI activity, which are described as follows:

### Phase I

The first phase of the Grumman EWI experience is a four-week orientation period devoted to briefings, discussions, and dialog between student officers and executives in functional and program organizations. Its purpose is to establish a baseline of information regarding corporate organization, responsibility centers, procedures and policies, programs and products, markets and prospects, facilities and capabilities, and a general operational and performance overview. Phase I challenges the officer students' ability to absorb extensive data and information but it forms a solid foundation from which to proceed into the planning and execution of subsequent phases. The Phase I schedule is as follows:

INTRODUCTION	September 2
Processing	
Facility Orientation	
Program Briefing	
NAV PLT REP BRIEFING	September 3
Captain R. Wilson, USN	
GAC Management Overview	
G. M. Skurla	
CORPORATE ORGANIZATION	September 4
R. Higgins	
CORPORATE RESOURCES	
J. O'Brien	
CUSTOMER REQUIREMENTS	September 5
Air Force, Navy, Army, Space	
A. Sholinsky, G. Thompson,	
D. Walsh, R. Spencer,	
S. Ferdinand	

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**MARKET FORECASTS**

W. Heuslein

**FINANCIAL ADMINISTRATION**

September 8

C. Paladino

**LEGAL**

R. Mur

**SECURITY/PERSONNEL SERVICES**

September 9

T. Rozzi

H. Volz

**PERSONNEL ADMINISTRATION**

D. Knowles

**PROCUREMENT/SUBCONTRACT MANAGEMENT**

September 10

P. Vassallo

**CENTRAL PURCHASING PRICING  
AND RESOURCES**

J. Monahan

D. Craig/O. Carr

**RESOURCE CONTROL/CONTRACTS**

September 11

R. Larson

**PLANNING, CONTROLS, BUDGETS**

E. Siebert

**BETHPAGE OPERATIONS**

September 12

E. Dalva

**TECHNICAL OPERATIONS**

L. Mead

**ADVANCED DEVELOPMENT**

A. August

**PRODUCT SUPPORT**

September 15

H. Kline

**ADVANCED AIRCRAFT SYSTEMS**

W. Tebo

B-2

OPERATIONS ANALYSIS	September 16
D. Lynch	
PRODUCT AND SYSTEM PLANNING	
F. Raymes	
CORPORATE SYSTEMS	
G. Devine	
MANUFACTURING	September 17
INFORMATION SYSTEMS - R. Buckley	
MANAGEMENT - T. Merritt	
TECHNOLOGY - T. Main/P. Kanzler	
PLANNING - W. Going	
FACILITY TOUR - W. Lamberta	
MATERIAL AND PROCESSES	September 18
R. Hietzmann	
PLANT MANAGEMENT	
Visits Plant 1, 2, 3	
MATERIAL MANAGEMENT	September 19
R. Prais	
PROGRAM MANAGEMENT	September 22
R. Mickey	
OPERATIONS QUALITY	
J. Kingfield	
CALVERTON OPERATIONS	September 23
F. Messina	
FLIGHT ACCEPTANCE	
R. Smyth	
FACILITY TOUR	
F-14 PROGRAM MANAGEMENT	September 24
M. Pelehach	
CONFIGURATION AND DATA MANAGEMENT	September 25
E. Hantz	

GREAT RIVER OPERATIONS

R. Tripp

GRUMMAN CORPORATION AND  
SUBSIDIARIES

September 26

R. Bradshaw

EWI SYMPOSIUM

September 29 - October 3

Phase II

This phase is 24 weeks in duration. It consists of working assignments of approximately six to eight weeks in duration in areas consistent with officer career path and goals. Assignments will be planned and programmed during Phase I well before the officers arrive in the department involved. Careful attention will be given to matching the officers with appropriate assignments. It is intended that the EWI participants be integrated into the productive activity of the host departments during this phase in a capacity which provides good visibility into the management processes of the organization. A role as a management understudy is frequently successful in terms of contribution and learning. Specific projects under the supervision of the assignment area management and commensurate with the student officers' capabilities have also been very useful Phase II assignments. It should be emphasized that student officers are to be treated as Grumman employees during their stay with us, and it is important that host department members understand the goals of EWI. The Grumman host manager should be sure to introduce the officer student involved at appropriate staff levels within his organization and to the people with whom he or she will be working.

Between Phase II assignments field trips will be scheduled to off-site locations as necessary to meet officer goals. Return visits to the key organizations studied during Phase I will also be scheduled as the need for emphasis of certain aspects of the organization becomes apparent.

Phase III

A final, long term assignment of approximately three months duration will be planned as Phase III of the program. This assignment will again depend on individual officer specialization and requirements. In each case, this assignment will be identified during feedback sessions held during Phase II, and will be arranged well before the assignment start date to ensure placement in a productive, learning situation.

A P P E N D I X   C

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## AIR FORCE EDUCATION WITH INDUSTRY PROGRAM INFORMATION (Cont'd)

### **Air Force Responsibilities:**

The role of each officer is that of a student. Although the Company has no administrative responsibility for the welfare, safety, performance or behavior of each officer, optimum mutual benefit is derived if he is treated as a management understudy in whom we have complete confidence. The Air Force instructs the officers to be objective and open minded toward the policies, decisions or actions of host companies. Officers' reports to their commanding officer disclose subject matter and individual progress only, and are reviewed by the EWI representative prior to their release.

EWI officers are responsible to Colonel Robert Kelley, Director, Civilian Institutions, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio. The officers' pay, medical care and flying requirements are administered by Travis Air Force Base, near Fairfield, California. No other military organization has authority with respect to AFIT officers assigned to the EWI Programs.

### **Clearance:**

The Company Visitor Control and AFPRO/NAVPRO receive certification of the officers' security status. Need-to-know is certified under the authority of the Chief of Safety and Security (SSI), Space and Missiles Systems Organization, AFSC, Los Angeles. Authority AFSC letter dated 30 October 1963. Officers are cleared to the level of SECRET with a need-to-know for information pertinent to management aspects of Missiles or Space Systems contracts.

Questions regarding need-to-know should be referred to the EWI representative for resolution.

### **Program Plan:**

The Program is divided into four phases, described below:

#### **Phase I**      Overview of the Company: Air Force Institute of Technology (AFIT) Education With Industry (EWI) Symposium

\*Meetings with Senior Managers and Seminars  
on Inter Divisional Major Functions (Sept. 4)      2 weeks

Customer Requirements (e.g., DCAA, AFPRO)      1 week

Program Management (AF/NASA Program)      1 week

AFIT/EWI Symposium (October 1)      1 week

<sup>\*</sup>Attended by four management representatives who participate with officers in the Overview.

AIR FORCE EDUCATION WITH INDUSTRY  
PROGRAM INFORMATION (Cont'd)

<b>Phase II</b> (12-1/2 Weeks)	<u>Analysis of Major Functions; Initial Work Assignment</u>
	Analytical Studies (Oct. 8) 3 Weeks
	Initial Work Assignment (Nov. 1) 6-1/2 Weeks
	Southern California Lockheed Divisions (November 26) 1 Week
	Company Holidays (Thanksgiving, Christmas and New Years) 2 Weeks
	First Student Report Completed (December 21)
<b>Phase III</b> (22-1/2 Weeks)	<u>Work Assignments; Aerospace Company Visits</u>
	Work Assignment II (Jan. 2) 8-1/2 Weeks
	West Coast AFIT Tour (March 4) 1 Week
	Work Assignment III (March 11) 6 Weeks
	Second Student Report (April 10)
	East Coast Tour (April 29) 1 Week
	Work Assignment IV (May 6) 6 Weeks
<b>Phase IV</b> (3 Weeks)	<u>Total Program Review and Evaluation</u>
	Individual Summaries and Evaluation 1 Week
	Senior Management Discussions 1 Week
	Administrative Duties (incl. Third Student Report, June 25); Graduation 1 Week
	End of Program, Friday, June 28, 1974

**LMSC EWI PROGRAM SCHEDULE 1975 - 1976**

ACTIVITY	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	From - To	Responsible
<b>PHASE I:</b>											9/30 - 10/3	
LMSC INDOCTRINATION (4) Objectives & Organization											9/2 - 5	R. Knotts
EXECUTIVE OVERVIEW (16) Orientation & Study											9/8 - 29	R. Knotts
AFIT EWI SYMPOSIUM (3) Treasure Island NAS, SF											9/30 - 10/2	LtCol. C. Nisbet
LMSC PRESENTATIONS (1) West Coast EWI Students											10/3	R. Knotts
<b>PHASE II:</b>											10/6 - 1/2	
WORK ASSIGNMENT I (35) Student Participation											10/6 - 11/21	**Line Organization
MANAGEMENT STUDIES (3) Southern California											11/24 - 26	R. Knotts
HOLIDAYS (2) Thanksgiving (11/27 - 28)											11/27 - 8	-
MANAGEMENT STUDIES (17) Functional Disciplines & SSD											12/1 - 23	Line Organization
AFIT PHASE REPORT Number One											12/19	Capt. B. Barr
HOLIDAYS (8): Christmas/ New Year's (12/24 - 1/2)											12/24 - 1/2	-
<b>PHASE III:</b>											1/5 - 6/4	
WORK ASSIGNMENT II (40) Student Participation											1/5 - 2/27	Line Organization
MANAGEMENT STUDIES (5) West Coast Aerospace Confr.											3/1 - 5	LtCol. C. Nisbet
WORK ASSIGNMENT III (30) Student Participation											3/8 - 4/16	Line Organization
AFIT PHASE REPORT Number Two											4/16	Capt. B. Barr
MANAGEMENT STUDIES (14) LAC Eastern Div. Pentagon											4/19 - 29	R. Knotts
WORK ASSIGNMENT IV (25) Student Participation											5/1 - 6/4	Line Organization
<b>PHASE IV:</b>											6/7 - 25	
SENIOR MANAGEMENT (10) LMSC-LAC											6/7 - 18	R. Knotts
PROGRAM COMPLETION 5: AFIT PHASE REPORT NO. 3											6/21 - 25	R. Knotts

\*Number of weeks 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 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996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 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## **THE ASSIGNMENT CALENDAR**

Because dates for off-site assignments are uncertain and because in-house schedules are flexible according to the demands of emergency and unforeseen conditions, the following calendar of assignments for the Education-With-Industry officer-students is tentative. However, it should be followed as closely as possible.

A detailed plan of action should be prepared by the department or function manager to which the student-officer is to be assigned. Eight (8) copies of this plan should be supplied to the FW-EWI Coordinator at least two (2) weeks before the assignment date. The plan of action should include daily assignments of a participating (not purely observing) nature, and the individual directly responsible for the day's activity.

The success of the program depends on how effectively the limited time is used. Although a single program administratively, EWI is actually a series of programs — one for each department or function the officers study. Plans for each participating department or function must support the overall program in a manner consistent with total program objectives.

From	To	DATES DAYS	ASSIGNMENTS	REPORTING TO
<b>DIVISION ORIENTATION</b>				
9-2-75	9-2-75	1	Arrival: Process In: Program Orientation Plant Tour	H. D. Ramsey
9-3-75	9-3-75	½	Division Management Policy	Richard E. Adams— Vice President & General Manager
		½	Division Finance & Control Policy	Earl E. Hatchett— Vice President, Finance
9-4-75	9-4-75	½	Division Contracts & Estimating Policy	Henry C. Jones— Vice President, Contracts & Estimating
		½	Operations Management & Organization	G. E. Sylvester Vice President, Operations
9-5-75	9-5-75	½	Courtesy Visit to AFPRO	Col. G. L. Schopen— Commander
9-5-75	9-5-75	½	Visit with EWI Alumnus	G. D. Fairbanks
9-8-75	9-9-75	2	Organization & Procedures	B. L. Murphy
9-10-75	9-10-75	1	Cost Reduction & Value Control	C. W. Doyle, Jr.— Director
9-11-75	9-12-75	2	Conference with Other EWI Students in D-FW Area	H. D. Ramsey
<b>GENERAL STAFF FUNCTIONS</b>				
9-15-75	9-15-75	1	Marketing	H. F. Rogers— Vice President, Marketing
9-16-75	9-18-75	3	F-16 Program Management	L. C. Josephs— Vice President, Deputy General Manager
9-19-75	9-19-75	1	F-111 Program Management	N. B. Robbins— Vice President, Program Director
9-22-75	9-25-75	4	Industrial Relations	Allen B. Cox Director
9-26-75	9-26-75	1	Program Review & Personal Follow-Up	H. D. Ramsey

From	To	Days	Assignments	Reporting To
<b>GENERAL STAFF FUNCTIONS (Cont'd)</b>				
9-29-75	10-3-75	5	AFIT-EWI Symposium Treasure Island Naval Station, San Francisco	Lt Col C. J. Nisbet
10-6-75	10-7-75	2	Legal	Horace Booth— General Counsel
10-8-75	10-10-75	3	Contracts	Joe Carter— Director
10-13-75	10-15-75	3	Estimating	D. E. Belke— Director
10-16-75	10-16-75	1	Proposal Coordination	C. H. E. C. May
10-17-75	10-17-75	1	F-16 Contracts	George Kostohryz
10-20-75	10-24-75	5	Controller	E. E. Hatchett— Vice President
10-27-75	10-29-75	3	Central Data Systems Center	D. H. Huckaby— Director
10-30-75	10-31-75	2	Corporate Internal Audit	H. V. Parnell ✓
11-3-75	11-6-75	4	San Antonio Air Logistics Center, San Antonio, Texas	H. D. Ramsey
11-7-75	11-7-75	1	Air Force Military Personnel Center, Randolph AFB, Texas	H. D. Ramsey
<b>SERVICE FUNCTIONS &amp; WORK ASSIGNMENTS</b>				
11-10-75	11-14-75	5	Plant Services, Transportation & Maintenance	R. F. Knepper— Director
11-17-75	11-26-75	8	Work Assignment with Estimating Function	T. P. Thompson
11-27-75	11-28-75	2	<i>Thanksgiving Holiday</i>	
12-1-75	12-2-75	2	Tour FAA & A/A	Dick Dolejsi ✓
12-31-75	12-4-75	2	Tour LTV and TI	H. D. Ramsey
12-5-75	12-5-75	1	FIRST PHASE REPORT & PROGRAM REVIEW	H. D. Ramsey
12-8-75	1-2-76	20	Research & Engineering*	T. S. Webb— Vice President
1-5-76	1-13-76	7	Material Department	N. E. Day— Director

\*Christmas and New Year holidays will be taken during this period.

<b>From</b>	<b>To</b>	<b>DATES DAYS</b>	<b>ASSIGNMENTS</b>	<b>REPORTING TO</b>
<b>SERVICE FUNCTIONS &amp; WORK ASSIGNMENTS (Cont'd)</b>				
1-14-76	1-23-76	8	Work Assignment with Material Function	G. D. Fairbanks
1-26-76	2-20-76	20	Work Assignment with Product Assurance Action Center	J. L. Coburn
2-23-76	2-27-76	5	General Dynamics Facilities San Diego, Pomona & Edwards AFB, California	Everett Lindem & H. D. Ramsey
3-1-76	3-5-76	5	Education With Industry West Coast Seminar	Lt Col C. J. Nisbet
<b>PRODUCTION FUNCTIONS &amp; WORK ASSIGNMENTS</b>				
3-9-76	3-10-76	3	Industrial Engineering	R. C. Hartwig
3-11-76	3-19-76	7	Manufacturing Engineering	D. W. Addison
3-22-76	3-23-76	2	SECOND PHASE REPORT & PROGRAM REVIEW	H. D. Ramsey
3-24-76	3-25-76	2	Corporate Office Visit	Joe Wiley
3-26-76	3-26-76	1	McDonnell Douglas Tour & Briefing	Jim McDonald
3-29-76	4-2-76	5	F-111 & F-16 Systems Project Offices, Wright-Patterson AFB, Ohio	H. D. Ramsey
4-5-76	4-9-76	5	Manufacturing Control	C. D. Ingram
4-12-76	4-15-76	4	Work Assignment with Performance Management Systems	L. F. Yoder
4-16-76	4-16-76	1	<i>Good Friday Holiday</i>	
4-19-76	4-23-76	5	Work Assignment (cont'd) with Performance Management Systems	L. F. Yoder
4-26-76	5-4-76	7	Factory	C. N. White
5-5-76	5-7-76	3	Field Operations	B. R. Plumlee
5-10-76	5-21-76	10	Value Engineering Seminar	H. D. Ramsey

<b>From</b>	<b>To</b>	<b>DAYS</b>	<b>ASSIGNMENTS</b>	<b>REPORTING TO</b>
<b>POST PRODUCTION FUNCTIONS</b>				
5-24-76	5-28-76	5	Logistics	B. G. Fay
5-31-76	5-31-76	1	<i>Memorial Day Holiday</i>	
6-1-76	6-7-76	5	Quality Assurance	J. Y. McClure— Vice President
6-8-76	6-11-76	4	Defense Contract Administra- tion Service Region Office (DCASO)	H. D. Ramsey
6-14-76	6-14-76	1	Defense Contract Audit Agency (DCAA)	W. J. Froning
6-15-76	6-17-76	3	Air Force Plant Representative Office, Plant No. 4	Col G. L. Schopen— Commander
6-18-76	6-21-76	2	FINAL REPORT & PROGRAM REVIEW	H. D. Ramsey
6-22-76	6-25-76	4	GRADUATION, PROGRAM EVALUATION & OUT PROCESSING	H. D. Ramsey

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